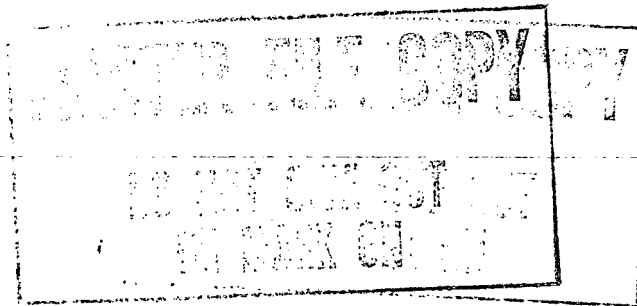




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# China's Shipbuilding Industry Expands Into World Market

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An Intelligence Assessment

DIA review  
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EA 82-10116  
October 1982  
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# **China's Shipbuilding Industry Expands Into World Market**

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**An Intelligence Assessment**

This assessment was prepared by [redacted]  
of the Office of East Asian Analysis with a  
contribution from [redacted] also of OEA. It  
was coordinated with the National Intelligence  
Council. Comments and queries are welcome and  
may be addressed to the Chief, China Division, OEA,

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**China's Shipbuilding Industry  
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**Key Judgments**

*Information available  
as of 21 September 1982  
was used in this report.*

China's shipbuilding industry has significantly increased its exports since 1977, and we believe its share of the global market in the 1980s will grow at the expense of the world leaders—Japan and South Korea. China's order books for 10,000-deadweight ton and larger ships are full until 1984; we estimate that China will export around 300,000 tons of commercial ships this year.

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Increased ship sales provide an important source of foreign exchange and improved shipyards will benefit naval shipbuilding as well as other sectors of the economy. US and other foreign firms also should benefit from the expanded commercial opportunities made available by China's desire for advanced shipbuilding technology.

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China's expansion into the world market is a result of cheap labor, favorable credit terms, and a modernized shipbuilding industry that has profited from an influx of foreign technology. The establishment of the China State Shipbuilding Corporation (CSSC) last spring will help eliminate red tape and accelerate contract negotiations with foreign buyers. Other government measures will improve organizational efficiency, broaden overseas markets, and provide more attractive payment terms.

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## China's Shipbuilding Industry Expands Into World Market

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### Exports Moving Up

Although a worldwide recession is causing cancellations at many nations' shipyards, China's order books for 10,000-dwt and larger ships are full until 1984. According to the 19 August issue of *Fairplay Shipping Weekly*, Chinese shipyards had contracted for 2 percent of total new orders placed at world shipyards by July 1982. This is a significant gain for the Chinese who first entered the export market in 1977. *Fairplay* figures show the Chinese now in 11th place (435,000 dwt) but still well behind the South Koreans with 9 percent (2,007,100 dwt) and far behind the Japanese with 45 percent (9,546,831 dwt) of world orders.<sup>1</sup> Moreover, exports of Chinese ships could reach 4 million tons annually by 1990.

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tugboats, pleasure craft, marine containers, and jack-up oil rigs.<sup>3</sup> Although the Chinese also export a limited number of naval craft, particularly to Third World countries, they do not announce naval sales or naval tonnage produced at their shipyards. They are offering to sell missile frigates, patrol craft, and subchasers, and sales in 1981 included R-class submarines, Shanghai gunboats, and Hoku missile boats.

The export ambitions of China's shipbuilding industry were recently reaffirmed by Bo Yibo, former Vice Premier and now state councilor and vice minister of the new state commission for restructuring the economic system. Last year the *China Trader* reported Bo's comments that a large number of ships would be exported in order to help develop industry, regardless of the world economic situation.

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We estimate that China will export around 300,000 tons of commercial ships in 1982—more than double 1981 exports.<sup>2</sup> The Chinese media have been reporting that more than 900,000 dwt were exported to customers in Asia and Europe during the period 1979 through 1981. We believe, however, that actual exports during this three-year period were below 200,000 tons and that three-fourths of this tonnage was delivered in 1981. We suspect that export orders on the books as well as ships still under construction were included in Chinese claims. According to trade journals, three 10,000-ton-class ships—the largest 17,500 dwt—and a limited number of barges, tugboats, and floating docks and cranes were exported during this period.

Although the main task of China's shipbuilding industry is to meet domestic demand, the Chinese are taking advantage of foreign orders to increase foreign earnings, which can be reinvested in the shipbuilding and associated industries to accelerate industrial expansion. At an estimated cost of \$500 per ton, the 300,000 deadweight tons that China will deliver this year to foreign buyers will generate more than \$150 million in foreign earnings. Oil rig construction, ship repairs, and deck and other marine equipment will bring in additional revenue.<sup>4</sup> We estimate that these

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<sup>3</sup> Recreation boats, many with fiberglass hulls, are being built for foreign buyers, with some pleasure craft being produced under contract for US buyers. The industry also is producing 20-foot marine containers under a five-year \$24 million contract with a US company.

<sup>4</sup> Before the May reorganization, Shanghai shipyards had signed export contracts for shipboard accessories worth \$2.8 million, according to an official *Xinhua* news release. A later *China Economic News* article reported that additional contracts had raised the total value of these Shanghai contracts to \$6 million by the end of July.

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Current export production includes 27,000- and 36,000-dwt bulk carriers, 12,000-dwt container ships,

<sup>1</sup> Excluding passenger ships and miscellaneous craft.

<sup>2</sup> This year's deliveries so far include three 27,000-ton freighters to Hong Kong firms and a 16,000-ton freighter to the Chinese Polish Joint Stock Shipping Company. Ships launched and being prepared for delivery include a 12,300-dwt container ship and a 36,000-ton freighter. We believe that the 300,000-ton claim is reasonable as a total of some 214,000 tons of export shipping in various stages of construction has been reported by trade journals so far this year.

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**China's Shipyard Production**

Deadweight tons

	Civilian Output
1977	634,000
1978	861,000
1979	809,000
1980	818,000
1981	832,000
1982	915,000 <sup>a</sup>

<sup>a</sup> Estimate based on January to July 1982 production reported by the Chinese as being 18.9 percent above the same period last year.

sales of shipyard products and services will account for almost 1 percent of the projected value—\$24.4 billion—of Chinese exports in 1982.

**Factors for Success**

The advances made by the Chinese shipbuilding industry over the past several years largely result from a reorganization of the industry, higher quality production, and liberal credit terms for foreign buyers.

**Industry Reorganization.** In a move to increase efficiency, the industry was restructured in May 1982, with all activities and administrative controls assumed by the China State Shipbuilding Corporation (CSSC). Previously the Sixth Ministry of Machine Building and the Ministry of Communications divided responsibility for all construction, repairs, and sales. The new organization will transfer necessary powers to regional corporations located at the three major shipbuilding centers—Dalian, Shanghai, and Guangzhou.

The parent corporation—operating at ministerial level under the direct control of the State Council—is a unified authority responsible for planning, supervision, research, production, and sales promotion for the

shipbuilding industry. According to the *Beijing Review*, the new corporation controls 26 shipyards, 66 ship equipment factories, and 30 research and design institutes. With over 300,000 employees, CSSC will build and repair both civilian and military ships, manufacture equipment for the offshore petroleum industry, and produce engines as well as other items of ship's equipment.

**Improved Shipbuilding Technology.** China's shipbuilding industry has been obtaining foreign technology to improve its construction techniques and management expertise. The Shanghai Shipbuilding Corporation and the China Corporation of Shipbuilding Industry, both formed over the past three years and merged in May 1982 into the China State Shipbuilding Corporation, contracted with foreign establishments to import or manufacture equipment and to receive technical assistance. Current contracts provide:

- Licenses from manufacturers in Europe, Japan, and the United States to produce such marine equipment as diesel engines, turbochargers, shaft-coupling shock absorbers, deck equipment, hatch covers, steering gear, deck cranes, and other accessories for oceangoing ships.
- Joint production agreements with Western firms for manufacturing ship equipment such as marine boilers, sewage treatment plants, incinerators, and fresh water generators.
- Japanese management and technical assistance for shipbuilding and marine machinery production at major shipyards.
- US technical assistance for construction of jack-up drilling rigs for offshore oil exploration.

Foreign technology also has helped improve overhaul and repair capabilities at Chinese shipyards, providing an additional source of foreign earnings. The Chinese have overhauled ships from several countries including the United States. European and US companies

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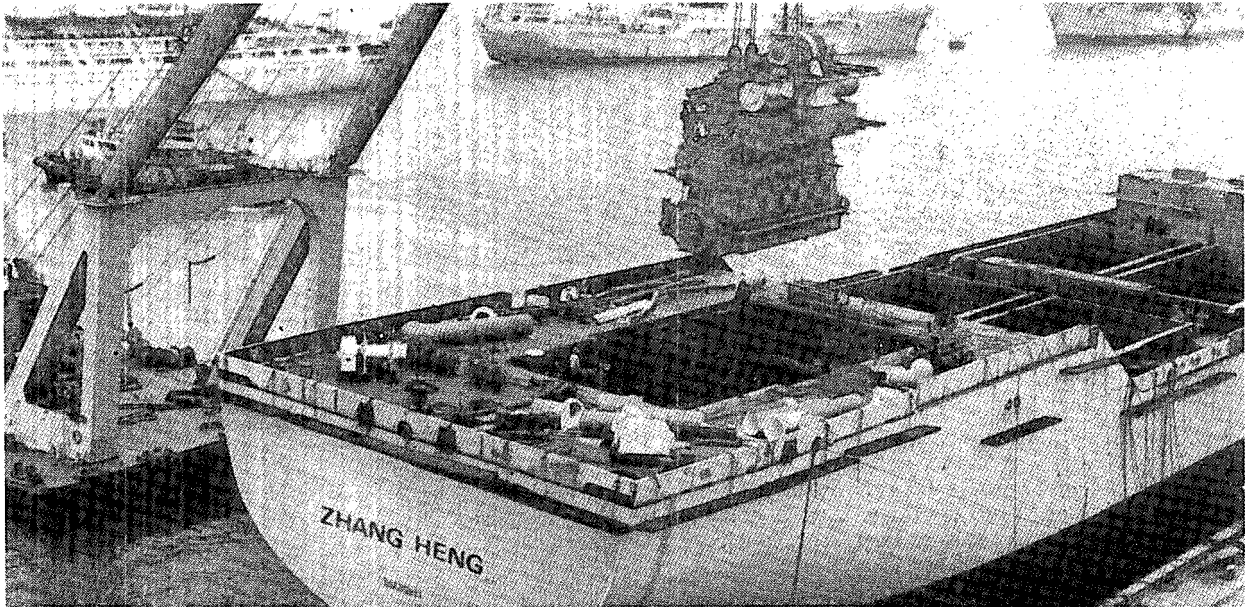


Figure 1. Installation of the first Shanghai-built Sulzer 6RND68M engine at the Shanghai Shipyard [redacted]

Fairplay ©

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25X1 have furnished technical assistance for upgrading repair facilities and a number of foreign companies have established service stations in China to repair and maintain navigation, sonar, and electrical equipment. [redacted]

Heretofore, China has been highly dependent on foreign materials and equipment to produce export vessels. However, according to Chai Shufan, head of CSSC, by 1985 China's industries will be supplying around 80 percent—double the current share—of the materials and equipment used in the ships. [redacted]

25X1 **Higher Quality.** The ability to produce a product that meets international standards is fostering China's image as a world-class shipbuilder. China's technical credentials have been confirmed by surveyors from leading overseas classification societies in residence at Chinese shipyards. These surveyors check the construction of ships and mobile drilling rigs as well as materials and major components produced in China for use in export vessels. Classification groups now in China include the American Bureau of Shipping, Lloyds Registry of Shipping, and groups from France, Norway, and West Germany. [redacted]

Although Chinese-made ships meet world standards, industry representatives concede that China cannot yet produce some of the more highly specialized ships such as liquefied petroleum gas carriers. Even though some observers place the Chinese 10 years away from achieving the full range of ships built at the world's more advanced shipyards, the Chinese product is of high quality. [redacted]

Chinese-made jack-up drilling rigs not only match international standards but are equivalent to the best. [redacted]

**Liberal Credit.** The Bank of China is offering export credit to foreign buyers on extremely favorable terms. The plan called for 30 percent down with the remainder financed at 8 to 9 percent over a 7- to 8-year period. A Norwegian shipping company, the first to try for export credit, reportedly was offered 8.5 percent, making Chinese ships 15 to 20 percent cheaper than those produced in the world's major shipyards. The bank also is willing to finance ships destined for China's domestic market. [redacted]

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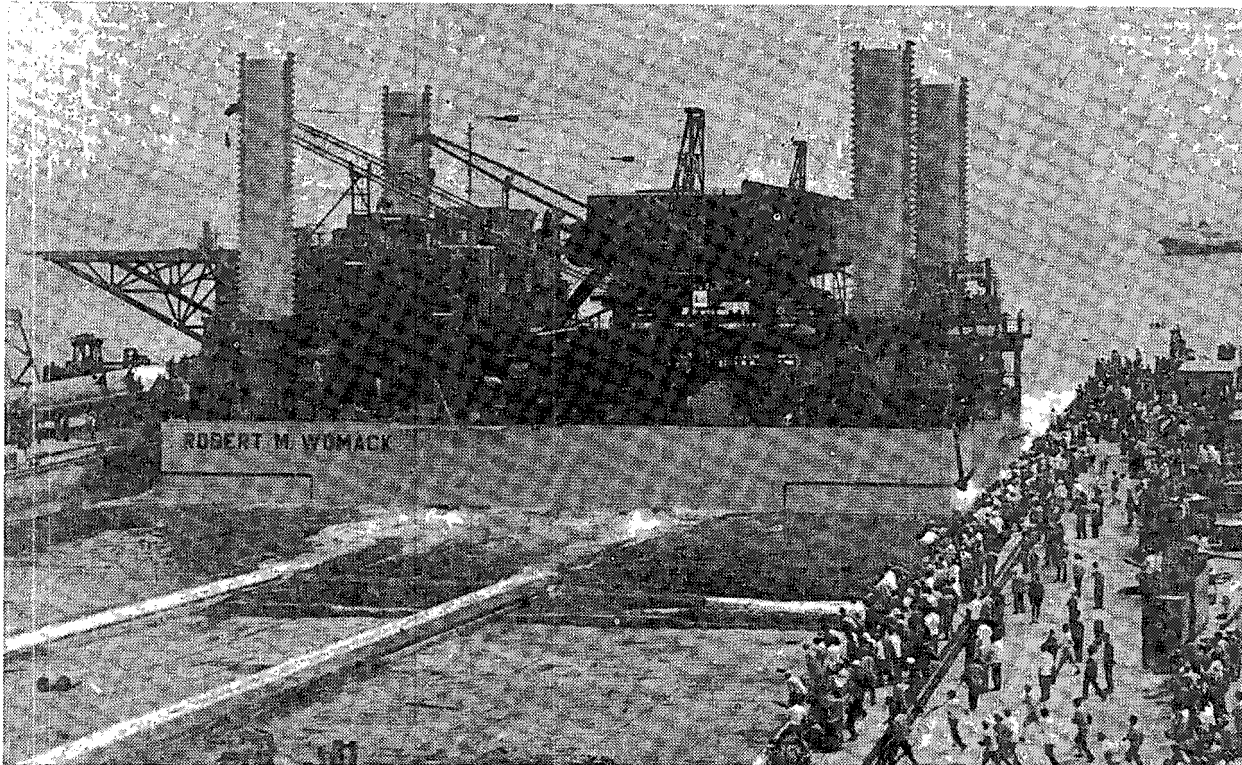


Figure 2. Dalian Shipyard in China's Northeast has built two offshore oil rigs for a US company. One of the two is being launched, summer 1982.

China Daily ©

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### Expanding Construction Capacity

In addition to accepting export orders, the CSSC has agreed to build 2.5 million tons for the domestic market before the end of 1985. Because these two commitments exceed current capacity, China must continue expanding its shipbuilding industry.

brought about standardized production processes that by speeding up production are contributing to increased capacity.

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CSSC can now build 36,000-ton bulk freighters, 50,000-ton oil tankers, container ships, barges, tugboats, and drilling rigs, and the corporation hopes to begin building 60,000- to 80,000-ton ships within the next year. The Chinese expect to have the capacity to produce ships of 100,000 to 150,000 tons by 1985. Chinese shipyards now repair and overhaul ships

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For example, the 6 September issue of *China Economic News* states that Shanghai shipyards plan to increase their shipbuilding volume at an average annual rate of 28 percent to reach 500,000 tons by the end of 1985. Moreover, the increasing number of foreign orders for specific models has

<sup>7</sup> The Chinese, for example, have foreign orders for eight 27,000-dwt freighters, five 36,000-dwt freighters, and four 12,000-dwt container ships. Orders for smaller ships include a \$40 million deal with two Singapore firms for nine anchor handling tug/offshore supply ships. Norwegian firms have contracted for eight offshore supply ships and have options for six more.

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ranging from 3,000 to 35,000 deadweight tons; dry-docks are being readied to handle 60,000- to 100,000-ton ships. [redacted]

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The high level of merchant ship output has been accompanied by reduced production of naval combatants. Shipyards under the old Sixth Ministry of Machine Building were gradually shifting excess production capacity to civilian construction even before they were absorbed by CSSC. The Navy—consisting of a strong coastal defense force and the beginning of an open-ocean fleet—has had to wait patiently for the development or procurement of new equipment. Chinese shipyards produce quality naval craft, but the Chinese have admitted to Western military personnel that their weapons and sensors are “backward.” [redacted]

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#### **Impact on the US and Other Countries**

In support of its export drive, China will continue seeking newer technology, thereby expanding commercial opportunities for US and other foreign firms. Even though foreign technology is enabling China to increase its share of the global market—which in turn is increasing competition in an already depressed shipbuilding market—foreign firms and shipyards appear willing to supply China with the needed technology. This is especially evident in the case of Japan, whose technology and assistance is benefiting Chinese yards even as Japanese yards are losing orders to their South Korean rivals. [redacted]

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Over the long term, the absorption of foreign technology and technical expertise into China's shipbuilding industry will benefit other Chinese industries.

Through joint ventures and license agreements with foreign enterprises, China is increasing the percentage of domestic materials in the final product, and much of this material will be supplied by industries outside the CSSC organization. Some benefits also will carry over to naval construction. For example, the reported trial production of a glass-fiber reinforced mine-sweeper—an outgrowth of the pleasure boat venture—could lead to an inexpensive mass-produced class of small naval craft. [redacted]

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